

SEMIKRON® 1

Power Bridge Rectifiers

SKD 31

Features

- Sturdy isolated metal baseplate
- Fast-on terminals with solder tips
- Suitable for wave soldering
- High surge current ratings
- UL recognized, file no. E 63 532

Typical Applications

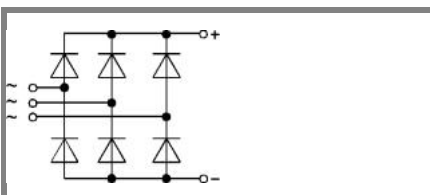
- DC power supply, e.g. for transistorized AC motor controllers
- Battery chargers
- Non-controlled DC motor field supply
- Recommended snubber network:
RC: 0.1 μ F, 50 Ω ($P_R = 1$ W)

1) Freely suspended or mounted on an insulator

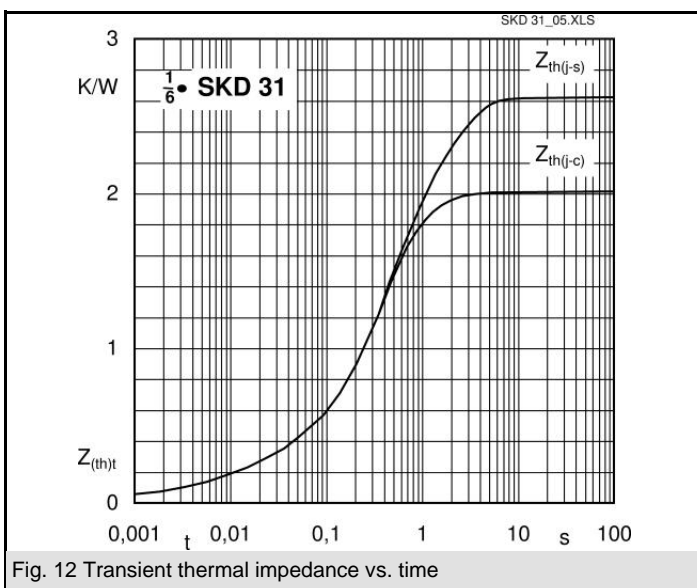
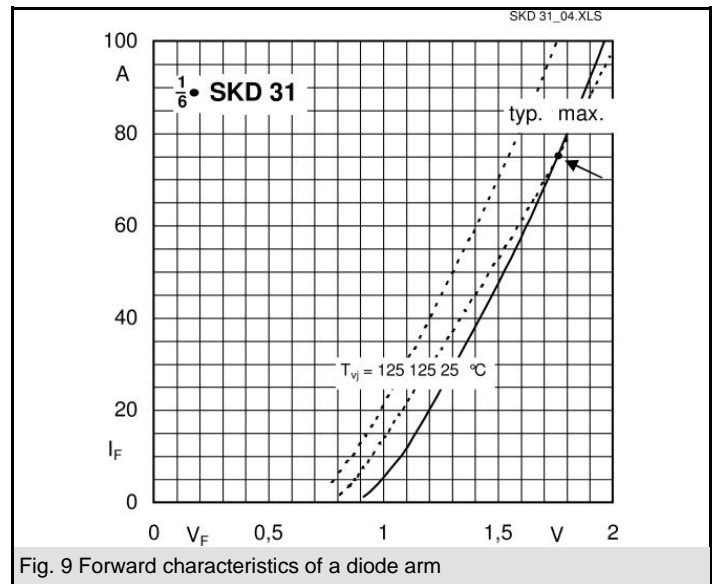
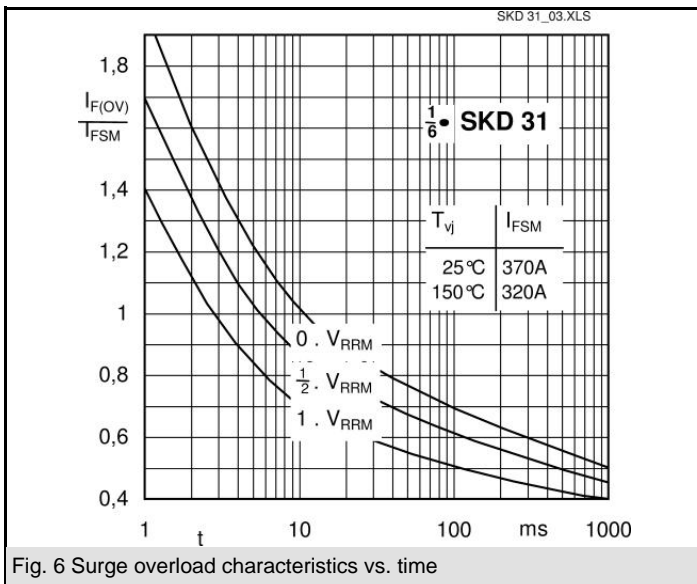
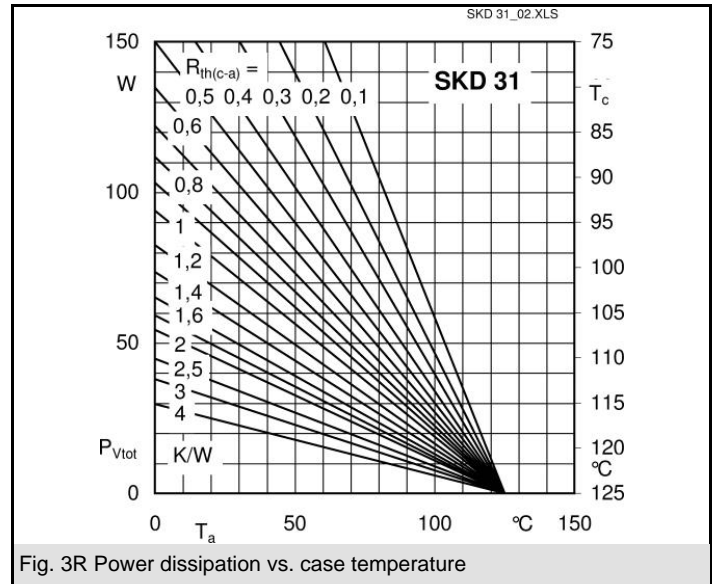
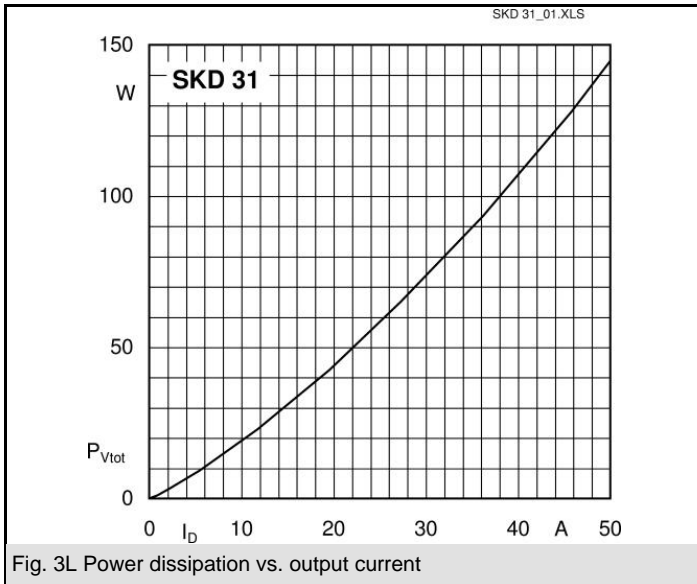
2) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm

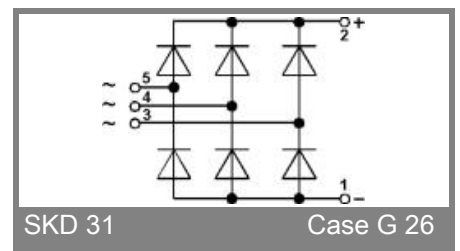
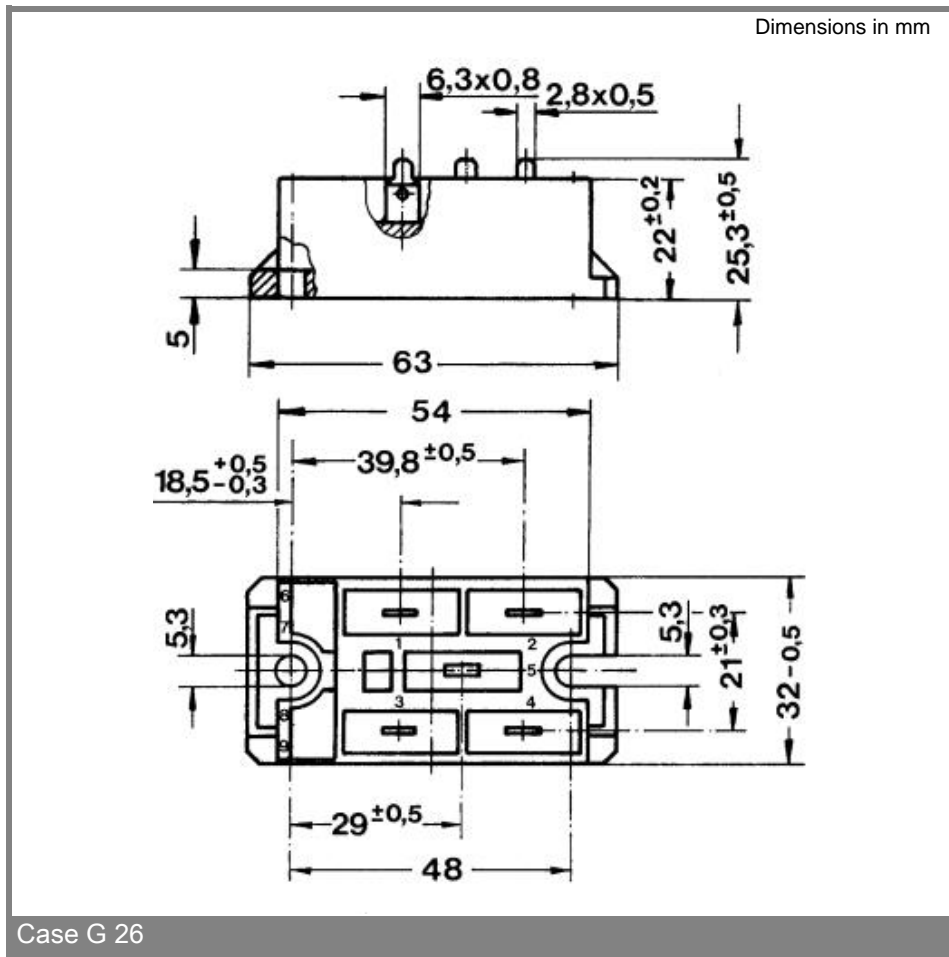
V_{RSM} V	V_{RRM}, V_{DRM} V	$I_D = 31$ A (full conduction) ($T_c = 100$ °C)
200	200	SKD 31/02
400	400	SKD 31/04
800	800	SKD 31/08
1200	1200	SKD 31/12
1400	1400	SKD 31/14
1600	1600	SKD 31/16

Symbol	Conditions	Values	Units
I_D	$T_c = 85$ °C	44	A
	$T_a = 45$ °C; isolated ¹⁾	5,3	A
	$T_a = 45$ °C; chassis ²⁾	17	A
	$T_a = 45$ °C; R4A/120 (P1A/120)	27 (32)	A
	$T_a = 35$ °C; P1A/120 F	56	A
I_{FSM}	$T_{vj} = 25$ °C; 10 ms	370	A
	$T_{vj} = 125$ °C; 10 ms	320	A
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms ms	685	A ² s
	$T_{vj} = 125$ °C; 8,3 ... 10 ms ms	510	A ² s
V_F	$T_{vj} = 25$ °C; $I_F = 75$ A	max. 1,75	V
$V_{(TO)}$	$T_{vj} = 125$ °C	max. 0,85	V
r_T	$T_{vj} = 125$ °C	max. 12	m Ω
I_{RD}	$T_{vj} = 25$ °C; $V_{DD} = V_{DRM}$; $V_{RD} = V_{RRM}$	max. 0,2	mA
	$T_{vj} = 125$ °C; $V_{DD} = V_{DRM}$; $V_{RD} = V_{RRM}$	2	mA
$R_{th(j-c)}$	per diode	2	K/W
	total	0,33	K/W
$R_{th(c-s)}$	total	0,1	K/W
	isolated ¹⁾ (chassis ²⁾)	15 (3)	K/W
T_{vj}		- 40 ... + 125 °C	°C
T_{stg}		- 40 ... + 125 °C	°C
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 (3000)	V
M_s	to heatsink	2 ± 15 %	Nm
M_t		66	g
Case		G 26	



SKD





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